A SUMMARY OF BIOLOGICAL DATA COLLECTED DURING THE 2003 BERING SEA CRAB TEST FISHERY



By

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ABSTRACT

In 2003 the Bering Sea test fishery was conducted in the Pribilof District on red king crab Paralithodes. The test fishery included research as well as cost-recovery fishing. This report is written annually to document and summarize the catch composition of commercially important crab species caught during the cost-recovery phase of the test fishery charter. The primary objectives of this charter were to determine the distribution and relative abundance of red and blue king crabs in the Pribilof District of the Bering Sea (registration area Q) and to conduct cost-recovery fishing to cover expenses. Due to a paucity of legal red king crab in the Pribilof District cost-recovery fishing was also conducted in Bristol Bay. During cost-recovery fishing a total of 565 side-loading, 7' x 7' x 34" king crab pots, fitted with 2.75" stretch mesh were set and pulled. Of the 565 pots pulled for cost-recovery, 44 were randomly sampled for catch composition in the Pribilof District and 35 were randomly sampled for catch composition in Bristol Bay. A total of 26 male and 2 female red king crabs, 22 male and 7 female blue king crabs, and 196 male and 251 female Tanner crabs Chionoecetes bairdi, and 291 male and 10 female snow crabs C. opilio were captured in the randomly sampled pots in the Pribilof District. A total of 1,254 male and 466 female red king crabs, and 86 male and 21 female Tanner crabs, and 29 male and 2 female snow crabs were captured in the randomly sampled pots in Bristol Bay. Of the red king crabs caught in the randomly sampled pots in the Pribilof District, 93% were males and 3% were females; in Bristol Bay 68% of sampled red king crabs were males and 32% were females. Approximately 5,139 male red king crabs > 165 mm (6.5 in) in carapace width were sold to offset the cost of the 2003 test fishery program.

INTRODUCTION

In 1990, the Alaska Department of Fish and Game (ADF&G) implemented the Bering Sea Crab Test Fish Project under authority of the State of Alaska's Test Fishery Program. Revenues generated from the sale of crabs caught during the test fishery are used to cover ADF&G's operating costs for research projects and activities aimed at collecting and analyzing data on critical commercial crab fisheries in the Bering Sea. King crab stock assessment surveys in the Bering Sea/Aleutian Islands are a major component of the project, and each year the department conducts these surveys through the use of chartered fishing vessels. This unique program has allowed the department to conduct research that otherwise would not be possible. Project goals, objectives and results from previous test fishery surveys are documented in Byersdorfer and Watson (1992, 1993), Watson and Pengilly (1992, 1993, 1994a, 1994b), Byersdorfer et al. (1994, 1995), Byersdorfer (1995, 1996, 1999a, 1999b, 2001, 2003), Gish and Byersdorfer (2002a, 2002b), Gish and Pengilly (2003a, 2003b), Watson et al. (1996), Tracy and Pengilly (1996, 1997), and Moore (1998).

The primary objectives of the 2003 test fishery were to determine the distribution and relative abundance of red king crab *Paralithodes camtschaticus* and blue king crab *P. platypus* in the Pribilof District of the Bering Sea (registration area Q), and to conduct cost-recovery fishing to fund the test fish program in FY03. Other objectives included: 1. Obtaining benthic habitat data, and sediment samples with accompanying underwater video observation of red and blue king crab habitat; 2. Obtaining environmental data correlated with catch per pot information; 3. Collecting stomachs from red and blue king crab throughout their habitat; 4. Collecting photographs of red and blue king crab anatomy for later publication; and, 5. Collecting specimens for an observer practicum. The purpose of this report is to document and summarize the catch composition of crabs during the cost-recovery phase of the test fishery charter. Results from the survey that was funded by this cost-recovery fishing will be presented in a later report.

METHODS AND PROCEDURES

Terms

For the purposes of this report, terms related to the discussion of sampled crabs are as follows:

Carapace Length (CL)
The straight-line distance across the carapace from the posterior margin of the right eye orbit to the medial-posterior margin of the carapace; the biological size measurement of red and blue king

crabs, and hair crab Erimacrus isenbeckii.

Carapace Width (CW)
The greatest straight-line distance across the carapace at a right angle to a line midway between the eyes to the medial-posterior margin of the carapace not including the spines; the biological size

measurement of Tanner crabs Chionoecetes bairdi and snow crabs

C. opilio.

Legal Size- Male red and blue king crabs \geq 165 mm (6.5 in) in carapace width

including lateral spines. Male Tanner crabs ≥ 140 mm (5.5 in) in carapace width, including lateral spines. Male snow crabs >79 mm

(3.1 in) in carapace width, including lateral spines.

Soft Shell- Crabs that have molted within the previous two months.

New-shell- Crabs that have molted within the preceding three to twelve

months.

Old-Shell- Crabs that have molted within the preceding thirteen to twenty-

four months.

Very old-Shell- Crabs that have not molted within the preceding twenty-four

months.

Fishing Itinerary

Fishing took place during a 33-day period from September 1 to October 3, 2003 aboard the 50.3 m (165 ft) chartered crabber *F/V Northern Orion* prior to the 2003 Bristol Bay red king crab fishery. The Pribilof District pot survey, benthic habitat data and sediment sample collections, underwater videos, environmental data collection, and stomach sample collections were conducted during the first portion of the charter, with cost-recovery fishing occurring during the last 12 days. Survey and cost-recovery fishing activities in the Pribilof District were curtailed on Sept 26 due to poor cost-recovery fishing; fishing resumed in the Bristol Bay registration area (T) on Sept 28, and was completed on October 3.

Fishing Area and Methods

The initial Pribilof District survey area was prechosen utilizing information from previous NMFS surveys and commercial fishery data. The general area of cost-recovery fishing in the Pribilof District was conducted in a 6,336 km² (3,600 nm²) area between 56° 54' and 57° 35' N latitude, and between 169° 30' and 169° 18' W longitude. Cost-recovery fishing in Bristol Bay was conducted in a 4,890 km² (1426 nm²) area between 55° 43' and 56° 36' N latitude and between 162° 7' and 163° 31' W longitude (Figure 1).

Survey and cost-recovery fishing was done using ADF&G research side-loading crab pots, measuring 2.3-m x 2.3-m x 0.9-m (7-ft x 7-ft x 34-in) with 7-cm (2.75-in) stretch mesh. Pots were baited with 1.9 L (2.0 qt) of frozen Pacific herring, and Pacific cod as hanging bait.

Catch Sampling

During cost-recovery fishing in the Pribilof District 9 to 19 pots a day were randomly selected for catch composition sampling; in Bristol Bay, 2 to 10 pots a day were randomly chosen. The contents of each randomly sampled pot were unloaded on a sorting table where crabs were separated by sex and legal size, measured to the nearest millimeter (CL for king crabs; CW for Tanner and snow crabs), and shell-aged. A commercial measure of carapace width was also obtained for male crabs to classify them as either legal or sublegal.

All sampled crabs were grossly examined for disease and handling induced injury or mortality. Female crabs were also examined for the presence or absence of eggs and for the determination of maturity and mating activity. Complete catch sampling instructions are detailed in Gish and Pengilly (2003b).

RESULTS AND DISCUSSION

During cost-recovery fishing in the Pribilof District 183 pots were pulled; of those, 44 (24 %) were sampled for catch composition. During cost-recovery fishing in Bristol Bay 381 pots were pulled; of those, 35 (9%) were sampled for catch composition.

The number of pots set each day for cost-recovery fishing in the Pribilof District varied from 16 to 53 and the number of pots pulled each day varied from 34 to 53. The soak time averaged 31 h and ranged between 4 h and 64 h. The number of pots set for cost-recovery fishing in the Bristol Bay varied from 44 to 94 per day, and the number of pots pulled each day varied from 49 to 97. The soak time averaged 24 h and ranged between 8 h and 33 h.

Catch Composition

A total of 816 crabs were captured in the 44 Pribilof District random pot samples. Tanner crabs predominated sample catches (55%), followed by snow crabs (37%), red king crabs (4%), blue king crabs (4%), Tanner hybrids (1%) and hair crab (<1%). A total of 2,042 crabs were captured in the 35 Bristol Bay random pot samples. Red king crabs predominated sample catches (93%), followed by Tanner crabs (5%) and snow crabs (2%).

Pribilof District Red and Blue King Crab

Sex Composition and Catch Per Unit Effort

Of the 28 red king crabs caught in the 44 random pot samples 93% (26) were males and 7% (2) were females. Length frequency and shell-age data were obtained on all crabs in the 44 random pot samples. Approximately 82% (23 crabs) were legal-sized males. Catch per pot of legal males

in all cost-recovery pots ranged from 0 to 14 (Appendix A) and averaged 0.7 per pot. Of the 2 females caught in the random pot samples, both were mature.

Of the 29 blue king crabs caught in the 44 random pot samples 76% (22) were males and 24% (7) were females. Approximately 62% (18 crabs) were legal-sized males. Only 6 of the 44 random pot samples contained legal male blue king crabs. In those 6 pots the number of legal males ranged from 1 to 6. All 7 females caught in the random pot samples were mature.

Length Distribution and Shell Age

Length frequency distributions of male red and blue king crabs in random pot samples are shown in Figure 2. A prominent size mode for male red king crabs was noted around 175-mm CL. The average size of legal male red king crabs in sampled pots was 164-mm CL and ranged between 136 and 181-mm. Prominent size modes for male blue king crab were noted around 140 and 150-mm CL. The average size of legal male blue king crabs in sampled pots was 150-mm CL and ranged between 140 and 164-mm CL.

Among all red king crab males caught in random pot samples, 85% were new-shell and 15% were old or very old- shell. Of the 23 legal-sized red king crab males caught in random pot samples, 83% were new-shell, and 17% were old-shell. Among all blue king crab males caught in randomly sampled pots 54% were new shell and 46% were old or very old- shell.

Pribilof District Tanner Crab

Sex Composition

Of the 447 Tanner crabs caught in the 44 random pot samples, 44% were males and 56% were females. Of the male Tanner crabs, 1 crab was of legal size.

Width Distribution and Shell Age

Width frequency distributions of male and female Tanner crabs from randomly sampled pots are shown in Figure 3. Prominent size modes for male Tanner crabs were noted around 90 and 110-mm CW. The size of male Tanner crabs ranged between 50 and 140-mm CW and averaged 106-mm CW. A prominent size mode for female Tanner crabs was noted around 80-mm CW. The size of female Tanner crabs ranged between 55 and 105-mm and averaged 85-mm CW.

Among all Tanner crab males caught in random pot samples, 91% were new-shell and 9% were old or very-old shell (Figure 4).

Pribilof District Snow Crab

Sex Composition

Of the 301 snow crabs caught in the 44 random pot samples, 97% were males and 3% were females. Of the male snow crabs, 143 crabs were of legal size.

Width Distribution and Shell Age

The size of male snow crabs ranged between 53 and 128-mm, and averaged 80-mm CW. The size of female crabs ranged between 56 and 80-mm and averaged 66-mm CW.

Among all snow crab males caught in random pot samples, 24% were new-shell and 76% were old or very-old shell.

Bristol Bay Red King Crab

Sex Composition and Catch Per Unit Effort

Of the 1,904 red king crabs caught in the 35 random pot samples, 1,720 were sampled. Of the 1,720 sampled red king crabs, 68% were males and 32% were females. Of the sampled males, approximately 64% were legal-sized. Catch per pot of legal males in all pots ranged from 0 to 45 (Appendix B) and averaged 13.5 crabs (Table 1). The catch per pot from previous years is not directly comparable to the results presented here due to differences in survey dates and areas fished.

A total of 616 females were caught in the 35 random pot samples, but only 466 were sampled. Of the 466 females sampled, 71% were mature.

Length Distribution and Shell Age

Length frequency distributions of male and female red king crabs in random pot samples are shown in Figure 5. Prominent size modes for male red king crab were noted around 100 and 140-mm CL. The average size of legal male red king crabs in all pots sampled was 140-mm CL and ranged between 130 and 182-mm CL. Prominent size modes for female red king crab were noted around 85 and 140-mm CL.

Among the sampled males caught in random pot samples, 96% were new-shell and 4% were old or very-old shell (Figure 6). Of the 456 legal-sized males sampled from random pot samples, 91% were new-shell, 8% were old-shell, and 1% were very old-shell.

Bristol Bay Tanner Crab

Sex Composition

A total of 107 Tanner crabs were caught in the 35 random pot samples. Of the male Tanner crabs, approximately 27% (29 crabs) were legal-sized.

Width Distribution and Shell Age

Width frequency distributions of male and female Tanner crabs from randomly sampled pots are shown in Figure 7. A prominent size mode for male Tanner crabs was noted around 130-mm CW. Male Tanner crabs ranged in size between 78 and 185-mm CW averaged 131-mm CW. Female Tanner crabs ranged in size between 65 and 140-mm CW.

Among all Tanner crab males caught in random pot samples, 70% were new-shell and 30% were old or very-old shell (Figure 8).

Bristol Bay Snow Crab

Sex Composition

Of the 31 snow crabs caught in the 35 random pot samples, 94% were males and 6% were females. Of the male snow crabs, 27 crabs were of legal size.

Width Distribution and Shell Age

The average size of male snow crabs was 99-mm CW. The size range of male snow crabs was between 74 and 137-mm. The average size of the 2 female snow crabs was 91-mm CW.

Among all snow crab males caught in random pot samples, 21% were new-shell and 79% were old or very-old shell.

Cost Recovery

Approximately 5,138 legal male red king crabs \geq 165-mm (6.5 in) CW were sold to offset the cost of the 2003 Bering Sea crab test fishery program. Only 143 legal red king crabs were taken from the Pribilof District, with an average weight estimated to be 3.7 kg (8.4 lb). A total of 4,995 legal red king crabs were taken from Bristol Bay. The average weight of Bristol Bay red king crab was 2.9 kg (6.5 lb).

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Table 1. Catch per pot (C/P) of legal male red king crabs from the Bristol Bay red king crab test and commercial fisheries, 1991-2003.

Year	C/P Red King Crab Commercial Fishery	C/P Red King Crab Test Fishery
1991	12.0	16.7
1992	6.0	12.3
1993	9.0	30.0
1994	Fishery closed	35.5
1995	Fishery closed	16.6
1996	16.0	16.0
1997	15.0	36.1
1998	15.1	35.0
1999	11.8	18.1
2000	11.5	20.7
2001	18.9	47.3
2002	19.0	43.9
2003	18.4^{a}	13.5

^a Data source: F. Bowers, Alaska Department of Fish and Game, Dutch Harbor; preliminary data as of 10/27/03.

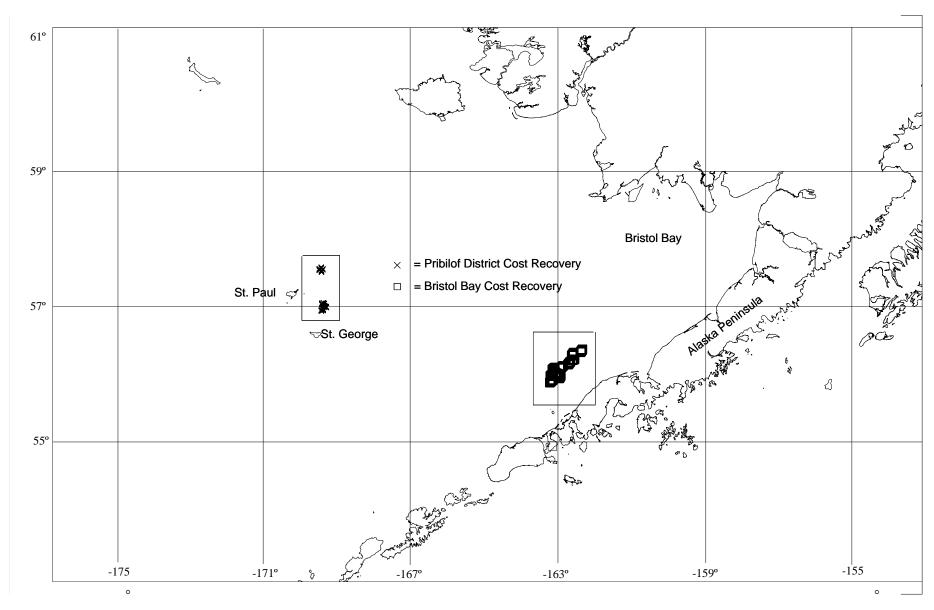


Figure 1. Locations of all the 2003 Pribilof District and Bristol Bay red king crab cost-recovery pots.

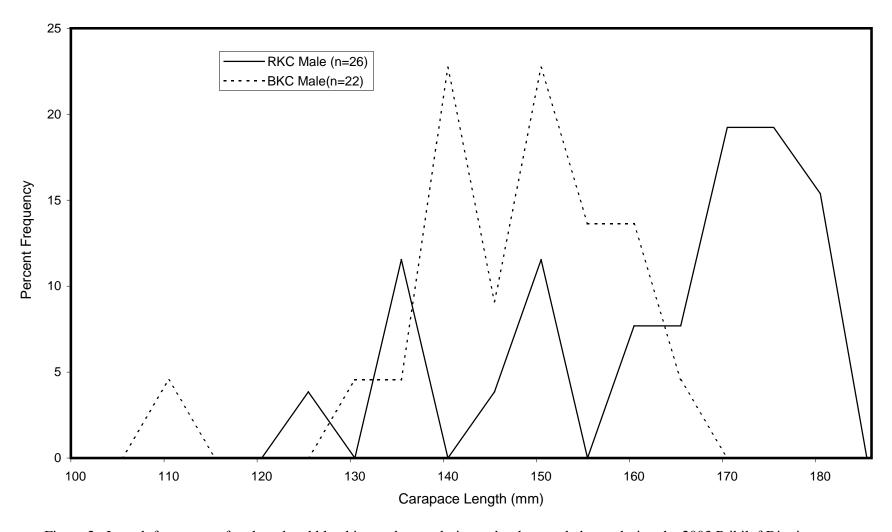


Figure 2. Length frequency of male red and blue king crabs caught in randomly sampled pots during the 2003 Pribilof District red king crab cost-recovery fishery, by 5-mm length classes.

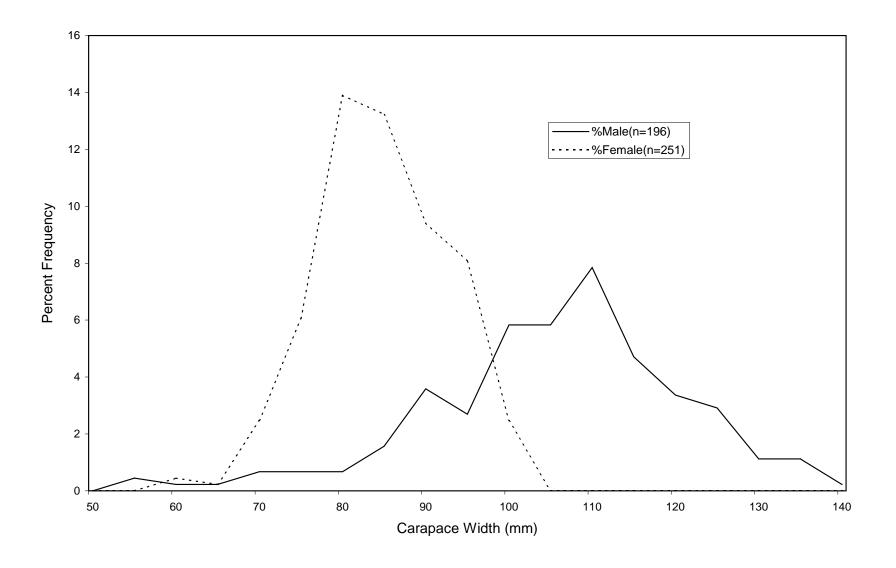


Figure 3. Width frequency of male and female Tanner crabs caught in randomly sampled pots during the 2003 Pribilof District red king crab cost-recovery fishery, by 5-mm width classes.

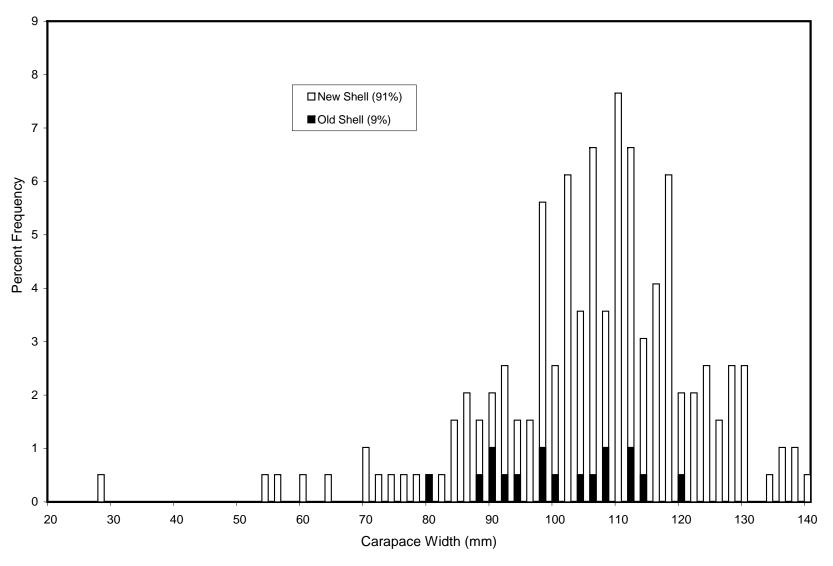


Figure 4. Shell age of male Tanner crabs caught in randomly sampled pots during the 2003 Pribilof District red king crab cost-recovery fishery, by 2-mm width classes.

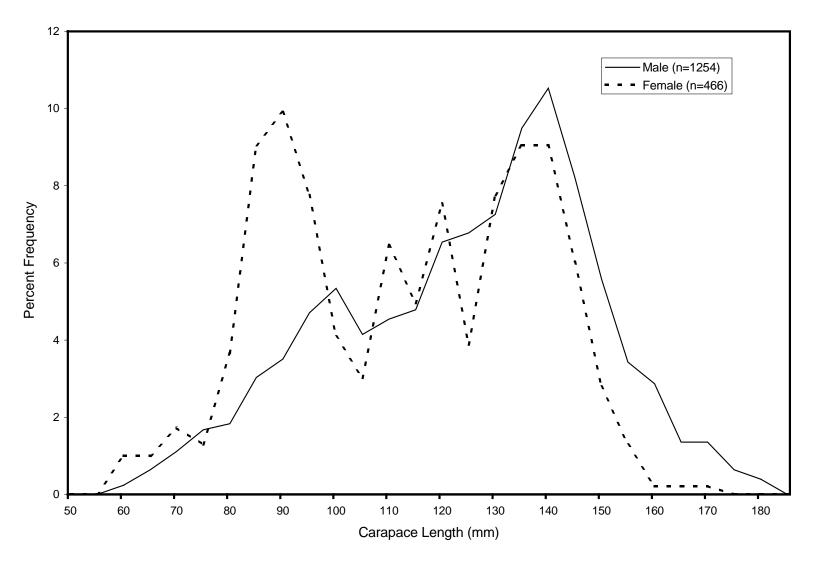


Figure 5. Length frequency of male and female red king crabs caught in randomly sampled pots during the 2003 Bristol Bay red king crab cost-recovery fishery, by 5-mm length classes.

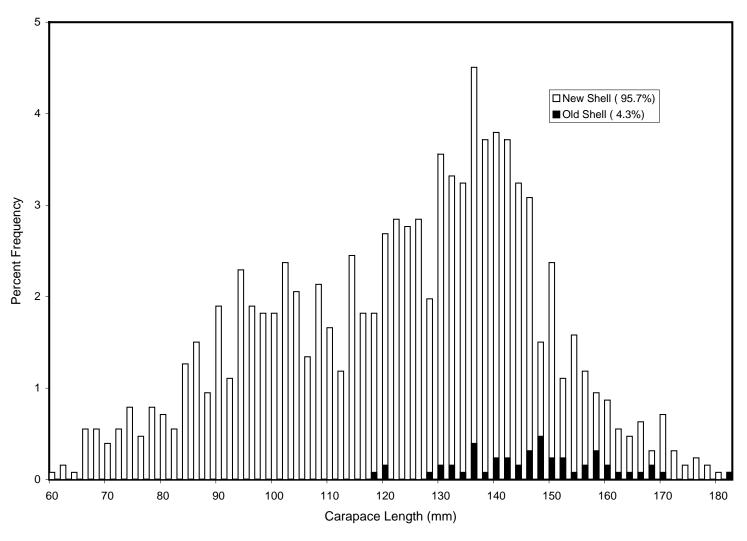


Figure 6. Shell age of male red king crabs caught in randomly sampled pots during the 2003 Bristol Bay red king crab cost-recovery fishery, by 2-mm length classes.

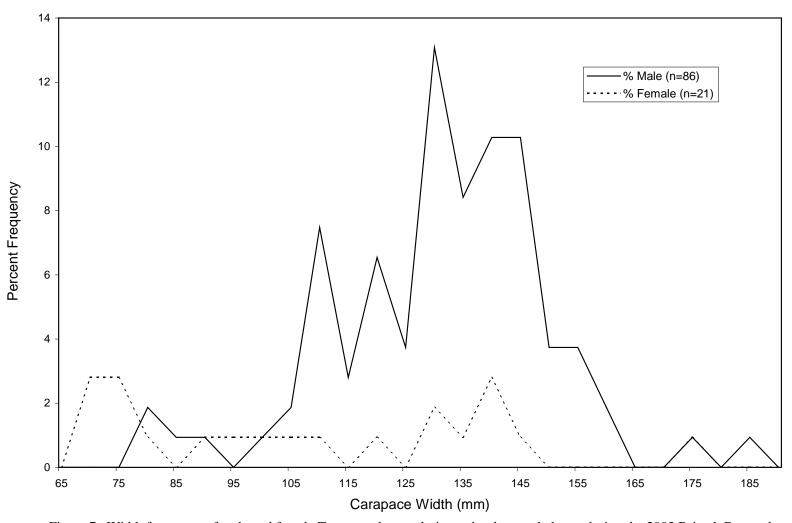


Figure 7. Width frequency of male and female Tanner crabs caught in randomly sampled pots during the 2003 Bristol Bay red king crab cost-recovery fishery, by 5-mm width classes.

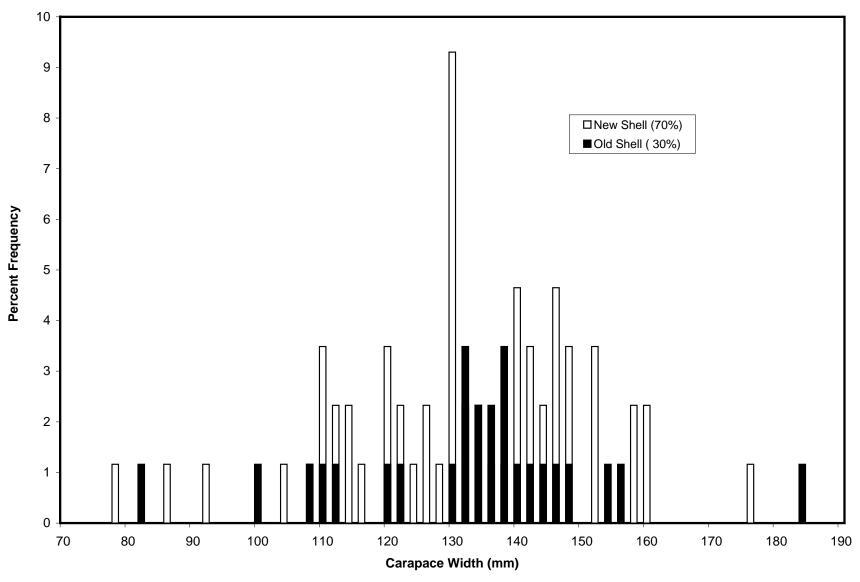


Figure 8. Shell age of male Tanner crabs caught in randomly sampled pots during the 2003 Bristol Bay red king crab cost-recovery fishery, by 2-mm width classes.

APPENDIX

Appendix A. Location of all cost-recovery pots fished, dates of deployment and associated catch of legal red king crabs from the 2003 Pribilof District red king crab test fishery.

			No	rth	We		Legal
Sequential	Set	Depth	Latit		Long	(6.5")	
Pot No.	Date	(fm)			Degrees		Crabs
625	9/21/03	38	57	0.73	169	24.72	0
626	9/21/03	38	57	0.68	169	24.57	0
627	9/21/03	38	57	0.62	169	24.40	0
628	9/21/03	38	57	0.57	169	24.25	0
629	9/21/03	38	57	0.51	169	24.11	0
630	9/21/03	38	57	0.46	169	23.97	0
631	9/21/03	39	57	0.40	169	23.80	0
632	9/21/03	38	57	0.34	169	23.63	0
633	9/21/03	39	57	0.27	169	23.45	0
634	9/21/03	38	57	0.21	169	23.29	0
635	9/21/03	38	57	0.15	169	23.12	1
636	9/21/03	39	57	0.08	169	22.95	0
637	9/21/03	39	57	0.02	169	22.77	0
638	9/21/03	39	56	59.95	169	22.61	1
639	9/21/03	39	56	59.89	169	22.45	0
640	9/21/03	39	56	59.83	169	22.29	1
641	9/21/03	39	56	59.78	169	22.15	1
642	9/21/03	39	56	59.72	169	21.99	0
643	9/21/03	39	56	59.67	169	21.83	5
644	9/21/03	39	56	59.61	169	21.68	14
645	9/21/03	39	56	58.81	169	22.99	0
646	9/21/03	39	56	58.87	169	23.14	0
647	9/21/03	39	56	58.94	169	23.32	1
648	9/21/03	39	56	59.00	169	23.50	0
649	9/21/03	38	56	59.05	169	23.64	0
650	9/21/03	39	56	59.11	169	23.80	0
651	9/21/03	39	56	59.18	169	23.95	0
652	9/21/03	38	56	59.25	169	24.13	6
653	9/21/03	39	56	59.31	169	24.29	2
654	9/21/03	38	56	59.38	169	24.48	11
655	9/21/03	38	56	59.45	169	24.65	1
656	9/21/03	39	56	59.52	169	24.82	0
657	9/21/03	38	56	59.59	169	24.99	0
658	9/21/03	38	56	59.66	169	25.16	0
659	9/21/03	38	56	59.72	169	25.32	0
660	9/21/03	38	57	2.18	169	22.72	0
661	9/21/03	38	57	2.25	169	22.91	0
662	9/21/03	38	57	2.31	169	23.06	0
663	9/21/03	38	57	2.37	169	23.22	0

Appendix A. (page 2 of 5)

			No	North West				
Sequential	Set	Depth	Latit	ude	Long	Legal (6.5")		
Pot No.	Date	(fm)	Degrees	Minutes	Degrees	Minutes	Crabs	
664	9/21/03	38	57	2.43	169	23.38	0	
665	9/21/03	38	57	2.49	169	23.55	0	
666	9/21/03	39	57	2.56		23.75	0	
667	9/21/03	39	57	2.64	169	23.96	0	
668	9/21/03	38	57	2.73	169	24.18	0	
669	9/21/03	38	57	2.77	169	24.34	0	
670	9/21/03	38	57	2.86		24.55	0	
671	9/21/03	38	57	2.93	169	24.72	0	
672	9/21/03	38	57	3.02	169	24.96	0	
709	9/23/03	39	56	59.58	169	21.64	0	
710	9/23/03	39	56	59.53	169	21.55	0	
711	9/23/03	39	56	59.49	169	21.47	0	
712	9/23/03	39	56	59.44	169	21.36	0	
713	9/23/03	39	56	59.41	169	21.27	0	
714	9/23/03	39	56	59.37	169	21.16	0	
715	9/23/03	39	56	59.30	169	21.05	1	
716	9/23/03	39	56	59.25	169	20.93	0	
717	9/23/03	39	56	59.20	169	20.78	1	
718	9/23/03	39	56	59.14	169	20.65	1	
719	9/23/03	39	56	59.09	169	20.52	0	
720	9/23/03	39	56	59.03	169	20.39	0	
721	9/23/03	39	56	58.96	169	20.21	1	
722	9/23/03	39	56	58.91	169	20.08	2	
723	9/23/03	39	56	58.85	169	19.95	0	
724	9/23/03	39	56	58.79	169	19.81	2	
725	9/23/03	39	56	58.75	169	19.69	2	
726	9/23/03	40	56	58.68	169	19.55	0	
727	9/22/03	40	56	58.62	169	19.38	5	
728	9/22/03	39	56	59.92	169	21.38	0	
729	9/22/03	39	56	59.86	169	21.26	0	
730	9/22/03	39	56	59.83	169	21.13	0	
731	9/22/03	39	56	59.79	169	20.99	0	
732	9/22/03	39	56	59.75	169	20.89	0	
733	9/22/03	39	56	59.71	169	20.78	0	
734	9/22/03	39	56	59.68	169	20.68	0	
735	9/22/03	39	56	59.63	169	20.55	0	
736	9/22/03	39	56	59.58	169	20.42	2	
737	9/22/03	39	56	59.54		20.27	0	
738	9/22/03	39	56	59.49		20.16	0	
739	9/22/03	40	56	59.45	169	20.03	0	

Appendix A. (page 3 of 5)

			N	Legal			
Sequential	Set	Depth	Latit			itude	(6.5")
Pot No.	Date	(fm)			Degrees		Crabs
740	9/22/03	40	56	59.40	169	19.89	2
741	9/22/03	40	56	59.35	169	19.72	0
742	9/22/03	40	56	59.33	169	19.67	0
743	9/23/03	38	57	30.07	169	27.65	0
744	9/23/03	38	57	30.21	169	27.66	3
745	9/23/03	38	57	30.30	169	27.67	0
746	9/23/03	38	57	30.43	169	27.67	0
747	9/23/03	38	57	30.56	169	27.66	2
748	9/23/03	38	57	30.72	169	27.67	2
749	9/23/03	38	57	30.85	169	27.67	0
750	9/23/03	38	57	30.98	169	27.68	0
751	9/23/03	38	57	31.10	169	27.68	2
752	9/23/03	38	57	31.24	169	27.69	0
753	9/23/03	38	57	31.36	169	27.70	0
754	9/23/03	38	57	31.51	169	27.71	3
755	9/23/03	38	57	31.65	169	27.71	0
756	9/23/03	38	57	31.77	169	27.72	0
757	9/23/03	38	57	31.91	169	27.73	0
758	9/23/03	39	57	32.02	169	27.75	0
759	9/23/03	38	57	31.85	169	31.32	0
760	9/23/03	38	57	31.96	169	31.33	0
761	9/23/03	38	57	32.27	169	31.34	0
762	9/23/03	39	57	32.38	169	31.35	1
763	9/23/03	38	57	32.49	169	31.35	0
764	9/23/03	38	57	32.61	169	31.35	0
765	9/23/03	38	57	32.73	169	31.35	0
766	9/23/03	39	57	32.86	169	31.35	0
767	9/23/03	38	57	32.98	169	31.35	0
768	9/23/03	38	57	32.11	169	31.35	1
769	9/23/03	38	57	33.23	169	31.35	1
770	9/23/03	38	57	33.37	169	31.35	2
771	9/23/03	38	57	33.38	169	31.35	14
772	9/24/03	38	57	34.80	169	28.24	2
773	9/24/03	38	57	34.69	169	28.25	4
774	9/24/03	38	57	34.57	169	28.25	0
775	9/24/03	38	57	34.44	169	28.26	0
776	9/24/03	38	57	34.32	169	28.26	2
777	9/24/03	38	57	34.21	169	28.26	0
778	9/24/03	38	57	34.08	169	28.26	0
779	9/24/03	38	57	33.95	169	28.26	0
780	9/24/03	38	57	33.82	169	28.26	0

Appendix A. (page 4 of 5)

			No	rth	We	est	Legal
Sequential	Set	Depth	Latit			itude	(6.5")
Pot No.	Date	(fm)			Degrees		Crabs
781	9/24/03	38	57	33.66	169	28.26	0
782	9/24/03	38	57	33.52	169	28.26	0
783	9/24/03	38	57	33.27	169	25.37	0
784	9/24/03	38	57	33.14	169	25.38	2
785	9/24/03	38	57	33.01	169	25.39	2
786	9/24/03	38	57	32.89	169	25.39	0
787	9/24/03	38	57	32.72	169	25.39	0
788	9/24/03	38	57	32.58	169	25.41	0
789	9/24/03	38	57	32.44	169	25.41	0
790	9/24/03	38	57	32.30	169	25.42	0
827	9/25/03	38	57	0.23	169	24.09	0
828	9/25/03	38	57	0.10	169	24.10	0
829	9/25/03	38	56	59.95	169	24.12	1
830	9/25/03	39	56	59.84	169	24.14	0
831	9/25/03	38	56	59.71	169	24.14	0
832	9/25/03	39	56	59.53	169	24.16	0
833	9/25/03	39	56	59.43	169	24.16	0
834	9/25/03	39	56	59.28	169	24.17	0
835	9/25/03	39	56	59.08	169	24.19	0
836	9/25/03	39	56	58.99	169	24.20	0
837	9/25/03	38	56	58.81	169	26.25	1
838	9/25/03	38	56	58.66	169	26.25	0
839	9/25/03	38	56	58.50	169	26.27	2
840	9/25/03	37	56	58.32	169	26.27	1
841	9/25/03	37	56	58.17	169	26.27	4
842	9/25/03	37	56	58.01	169	26.27	0
843	9/25/03	37	56	57.84	169	26.28	4
844	9/25/03	37	56	57.69	169	26.28	1
845	9/25/03	37	56	57.56	169	26.29	0
846	9/25/03	38	56	57.36	169	26.29	0
847	9/25/03	36	56	56.60	169	27.91	0
848	9/25/03	36	56	56.49	169	27.90	2
849	9/25/03	37	56	56.37	169	27.91	0
850	9/25/03	38	56	56.24	169	27.91	0
851	9/25/03	38	56	56.11	169	27.90	0
852	9/25/03	38	56	55.96	169	27.90	0
853	9/25/03	39	56	55.83	169	27.90	0
854	9/25/03	39	56	55.77	169	27.90	0
855	9/25/03	39	56	55.58	169	27.90	0
856	9/25/03	39	56	55.44	169	27.90	0
857	9/25/03	39	56	55.94	169	25.13	0

Appendix A. (page 5 of 5)

			No	rth	We	29t	Legal
Sequential	Set	Depth	Latit			Longitude	
Pot No.	Date	(fm)	Degrees	Minutes		Minutes	(6.5") Crabs
858	9/25/03	39	56	56.10		25.10	0
859	9/25/03	39	56	56.26	169	25.08	0
860	9/25/03	39	56	56.40	169	25.07	0
861	9/25/03	39	56	56.56	169	25.06	0
862	9/25/03	39	56	56.70	169	25.05	0
863	9/25/03	39	56	56.87	169	25.04	0
864	9/25/03	39	56	57.01	169	25.02	0
865	9/25/03	39	56	57.15	169	25.00	1
866	9/25/03	39	56	57.34	169	25.00	0
867	9/25/03	39	56	57.48	169	24.98	0
868	9/25/03	35	57	1.09	169	27.05	0
869	9/25/03	36	57	1.21	169	27.06	0
870	9/25/03	36	57	1.37	169	27.07	0
871	9/25/03	36	57	1.51	169	27.08	0
872	9/25/03	36	57	1.64	169	27.08	0
873	9/25/03	37	57	1.83	169	27.10	0
874	9/25/03	37	57	1.97	169	27.11	0
875	9/25/03	37	57	2.12	169	27.12	0
876	9/25/03	37	57	2.26	169	27.12	0
877	9/25/03	37	57	2.46	169	27.13	0
878	9/25/03	37	57	2.59	169	27.13	0
879	9/25/03	37	57	2.81	169	27.15	0
Total							123

Appendix B. Location of all cost-recovery pots fished, dates of deployment and associated catch of legal red king crabs from the 2003 Bristol Bay red king crab test fishery.

			Noi	rth	We	est	Legal
Sequential	Set	Depth	Latit		Longi		(6.5")
Pot No.	Date	(fm)	Degrees		Degrees	Minutes	Crabs
880	9/28/03	45	56	4.26	162	57.50	8
881	9/28/03	45	56	4.40	162	57.26	7
882	9/28/03	45	56	4.51	162	57.03	14
883	9/28/03	45	56	4.63	162	56.79	7
884	9/28/03	45	56	4.77	162	56.52	17
885	9/28/03	45	56	4.88	162	56.31	17
886	9/28/03	45	56	5.01	162	56.04	6
887	9/28/03	45	56	5.15	162	55.77	13
888	9/28/03	45	56	5.29	162	55.48	21
889	9/28/03	45	56	5.41	162	55.25	17
890	9/28/03	45	56	5.51	162	55.04	18
891	9/28/03	45	56	5.66	162	54.75	21
892	9/28/03	45	56	5.77	162	54.53	22
893	9/28/03	45	56	5.88	162	54.31	18
894	9/28/03	45	56	6.03	162	54.03	13
895	9/28/03	45	56	6.16	162	53.78	7
896	9/28/03	45	56	6.26	162	53.57	5
897	9/28/03	45	56	6.39	162	53.31	1
898	9/28/03	45	56	6.52	162	53.06	4
899	9/28/03	45	56	6.64	162	52.82	21
900	9/28/03	45	56	6.79	162	52.53	10
901	9/28/03	45	56	6.95	162	52.22	9
902	9/28/03	42	56	7.62	162	44.74	2
903	9/28/03	42	56	7.78	162	44.48	1
904	9/28/03	42	56	7.91	162	44.28	4
905	9/28/03	42	56	8.05	162	44.07	0
906	9/28/03	42	56	8.20	162	43.86	0
907	9/28/03	42	56	8.36	162	43.62	4
908	9/28/03	42	56	8.52	162	43.38	9
909	9/28/03	42	56	8.67	162	43.15	4
910	9/28/03	42	56	8.80	162	42.96	7
911	9/28/03	42	56	8.94	162	42.75	5
912	9/28/03	42	56	9.08	162	42.56	7
913	9/28/03	42	56	9.24	162	42.32	5
914	9/28/03	42	56	9.42	162	42.05	6
915	9/28/03	42	56	9.59	162	41.79	14
916	9/28/03	42	56	9.72	162	41.61	15
917	9/28/03	41	56	9.86	162	41.39	22
918	9/28/03	41	56	10.02	162	41.16	14

Appendix B. (page 2 of 10)

			No	rth	We	oct	Logal
Sequential	Set	Depth	Latit		Longi		Legal (6.5")
Pot No.	Date	(fm)	Degrees		Degrees		Crabs
1 00 140.	Date	(1111)	Degrees	Williates	Degrees	Williates	Olabs
919	9/28/03	41	56	10.16	162	40.95	26
920	9/28/03	41	56	10.31	162	40.73	18
921	9/28/03	41	56	10.48	162	40.48	15
922	9/28/03	41	56	10.67	162	40.40	15
923	9/28/03	41	56	10.84	162	39.93	20
924	9/29/03	43	56	15.66	162	38.66	17
925	9/29/03	43	56	15.74	162	38.57	11
926	9/29/03	43	56	15.89	162	38.37	15
927	9/29/03	43	56	16.01	162	38.20	8
928	9/29/03	43	56	16.15	162	38.04	9
929	9/29/03	43	56	16.31	162	37.84	5
930	9/29/03	43	56	16.43	162	37.69	5
931	9/29/03	43	56	16.58	162	37.5	3
932	9/29/03	43	56	16.73	162	37.31	7
933	9/29/03	43	56	16.88	162	37.13	7
934	9/29/03	43	56	17.02	162	36.92	9
935	9/29/03	43	56	17.18	162	36.73	14
936	9/29/03	43	56	17.35	162	36.54	8
937	9/29/03	43	56	17.53	162	36.31	23
938	9/29/03	43	56	17.67	162	36.13	12
939	9/29/03	43	56	17.84	162	35.93	11
940	9/29/03	43	56	17.98	162	35.74	8
941	9/29/03	43	56	18.19	162	35.48	6
942	9/29/03	43	56	18.37	162	35.25	11
943	9/29/03	43	56	18.53	162	35.04	13
944	9/29/03	43	56	18.73	162	34.79	13
945	9/29/03	43	56	18.88	162	34.60	12
946	9/29/03	42	56	18.69	162	24.08	11
947	9/29/03	42	56	18.84	162	23.92	13
948	9/29/03	41	56	18.96	162	23.75	13
949	9/29/03	41	56	19.09	162	23.58	8
950	9/29/03	41	56	19.24	162	23.41	8
951	9/29/03	41	56	19.38	162	23.25	9
952	9/29/03	41	56	19.49	162	23.09	7
953	9/29/03	40	56	19.64	162	22.92	2
954	9/29/03	40	56	19.75	162	22.79	6
955	9/29/03	39	56	19.89	162	22.63	8
956	9/29/03	39	56	20.04	162	22.43	7
957	9/29/03	39	56	20.17	162	22.27	6
958	9/29/03	39	56	20.30	162	22.13	9
959	9/29/03	39	56	20.43	162	21.96	5

Appendix B. (page 3 of 10)

			No	rth	We		Legal
Sequential	Set	Depth	Latit		Longi		(6.5")
Pot No.	Date	(fm)	Degrees	Minutes	Degrees	Minutes	Crabs
000	0/20/02	20	FC	20.50	100	24.00	7
960 061	9/29/03	38	56 56	20.56 20.7	162	21.80 21.63	7
961	9/29/03	38	56 56		162		4
962	9/29/03	37	56 56	20.86	162	21.43	3
963	9/29/03	37 27	56 56	21.00 21.12	162	21.27	4
964 065	9/29/03	37	56 56	21.12	162	21.13	8
965	9/29/03	37	56 56		162	20.94	6
966	9/29/03	37	56 56	21.42	162	20.75	5 10
967 968	9/29/03 9/29/03	37 37	56 56	21.55	162	20.60 20.45	10 8
969	9/29/03	37 40	56 56	21.69 11.62	162 162	20.45 37.97	o 13
970	9/29/03	40 40	56	11.62	162	37.66	18
970 971	9/29/03	40 40	56	11.07	162	37.42	8
	9/29/03	40 40		11.71	162		o 13
972 973	9/29/03	40 40	56 56	11.76	162	37.20 36.93	15 15
973 974	9/29/03	40	56	11.86	162	36.67	9
974 975	9/29/03	40	56	11.91	162	36.45	14
975 976	9/29/03	40	56	11.95	162	36.20	13
976 977	9/29/03	40 40	56	11.95	162	35.98	8
977 978	9/29/03	40	56	12.08	162	35.75	15
978 979	9/29/03	40	56	12.06	162	35.75	10
980	9/29/03	40	56	12.14	162	35.30	2
981	9/29/03	40	56	12.21	162	35.08	8
982	9/29/03	40	56	12.25	162	34.84	8
983	9/29/03	40	56	12.33	162	34.57	7
984	9/29/03	40	56	12.50	162	34.35	8
985	9/29/03	41	56	12.57	162	34.09	10
986	9/29/03	41	56	12.65	162	33.82	9
987	9/29/03	41	56	12.71	162	33.58	5
988	9/29/03	40	56	12.79	162	33.31	6
989	9/29/03	40	56	12.85	162	33.07	6
990	9/30/03	45	55	59.95	163	0.33	0
991	9/30/03	45	55	59.85	163	0.52	6
992	9/30/03	45	55	59.71	163	0.81	32
993	9/30/03	45	55	59.58	163	1.07	21
994	9/30/03	45	55	59.44	163	1.35	23
995	9/30/03	45	55	59.31	163	1.61	10
996	9/30/03	45	55	59.19	163	1.85	35
997	9/30/03	45	55	59.06	163	2.12	14
998	9/30/03	45	55	58.94	163	2.37	22
999	9/30/03	45	55	58.83	163	2.59	14
1000	9/30/03	45	55	58.71	163	2.83	7
	3, 33, 33			ontinued-			

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			No	w4 la	١٨/٥	-04	Logol
Seguential	Set	Depth	No Latit		We		Legal
Sequential Pot No.	Date	(fm)			Longi Degrees		(6.5") Crabs
FOLINO.	Date	(1111)	Degrees	wiiiutes	Degrees	wiiilutes	Clabs
1001	9/30/03	45	55	58.60	163	3.06	16
1002	9/30/03	45	55	58.46	163	3.34	11
1003	9/30/03	45	55	58.36	163	3.56	9
1004	9/30/03	45	55	58.26	163	3.76	10
1005	9/30/03	46	55	58.14	163	4.01	25
1006	9/30/03	45	55	58.02	163	4.25	19
1007	9/30/03	46	55	57.89	163	4.56	27
1008	9/30/03	46	55	57.81	163	4.68	<u> </u>
1009	9/30/03	45	55	57.70	163	4.89	4
1010	9/30/03	46	55	57.53	163	5.14	11
1011	9/30/03	45	55	57.45	163	5.40	8
1012	9/30/03	47	55	57.52	163	13.45	6
1013	9/30/03	46	55	57.62	163	13.27	11
1014	9/30/03	47	55	57.72	163	13.06	5
1015	9/30/03	46	55	57.82	163	12.86	4
1016	9/30/03	47	55	57.91	163	12.68	4
1017	9/30/03	47	55	58.01	163	12.50	4
1018	9/30/03	46	55	58.09	163	12.33	5
1019	9/30/03	46	55	58.20	163	12.11	6
1020	9/30/03	46	55	58.28	163	11.96	13
1021	9/30/03	46	55	58.38	163	11.74	14
1022	9/30/03	46	55	58.48	163	11.55	26
1023	9/30/03	45	55	58.57	163	11.38	23
1024	9/30/03	46	55	58.64	163	11.24	28
1025	9/30/03	46	55	58.76	163	10.98	22
1026	9/30/03	45	55	58.84	163	10.83	19
1027	9/30/03	45	55	58.93	163	10.66	15
1028	9/30/03	45	55	59.03	163	10.43	16
1029	9/30/03	46	55	59.13	163	10.27	10
1030	9/30/03	46	55	59.22	163	10.10	7
1031	9/30/03	45	55	59.32	163	9.91	11
1032	9/30/03	45	55	59.44	163	9.68	6
1033	9/30/03	45	55	59.55	163	9.47	3
1034	9/30/03	45	55	59.68	163	9.23	7
1035	9/30/03	45	55	59.76	163	9.06	7
1036	9/30/03	45	56	3.36	163	10.08	14
1037	9/30/03	45	56	3.46	163	9.88	13
1038	9/30/03	45	56	3.55	163	9.68	6
1039	9/30/03	45	56	3.63	163	9.49	5
1040	9/30/03	45	56	3.74	163	9.28	3
1041	9/30/03	45	56	3.81	163	9.10	25

Appendix B. (page 5 of 10)

Sequential Pot No. Set Date Date North (fm) North Degrees Minutes Degrees Minutes Crabs 1042 9/30/03 45 56 3.92 163 8.89 4 1043 9/30/03 45 56 4.03 163 8.67 17 1044 9/30/03 45 56 4.12 163 8.47 28 1045 9/30/03 45 56 4.23 163 8.23 33 1046 9/30/03 45 56 4.23 163 8.02 29 1048 9/30/03 45 56 4.43 163 8.02 29 1048 9/30/03 45 56 4.45 163 7.50 29 1048 9/30/03 45 56 4.46 163 7.10 12 1059 9/30/03 45 56 4.76 163 7.10 12 1051 9/30/03 45				NI.	rth	١٨/-	ot	Logol
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1064 9/30/03 47 55 54.13 163 9.60 0 1065 9/30/03 47 54 55.40 163 9.83 0 1066 9/30/03 47 55 53.88 163 10.11 0 1067 9/30/03 47 55 53.75 163 10.37 1 1068 9/30/03 47 55 53.58 163 10.74 2 1069 9/30/03 47 55 53.46 163 11.15 2 1070 9/30/03 47 55 53.31 163 11.31 12 1071 9/30/03 47 55 53.20 163 11.49 9 1072 9/30/03 47 55 53.08 163 11.77 1 1073 9/30/03 47 55 52.96 163 12.02 3 1074 9/30/03 47 55 52.84 163 12.25 1 1075 9/30/03 47 55 5	1063	9/30/03	47	55	54.26	163	9.33	0
1066 9/30/03 47 55 53.88 163 10.11 0 1067 9/30/03 47 55 53.75 163 10.37 1 1068 9/30/03 47 55 53.58 163 10.74 2 1069 9/30/03 47 55 53.46 163 11.15 2 1070 9/30/03 47 55 53.31 163 11.31 12 1071 9/30/03 47 55 53.20 163 11.49 9 1072 9/30/03 47 55 53.08 163 11.77 1 1073 9/30/03 47 55 52.96 163 12.02 3 1074 9/30/03 47 55 52.84 163 12.25 1 1075 9/30/03 47 55 52.64 163 12.76 1 1076 9/30/03 48 55 52.58 163 12.76 1 1079 9/30/03 48 55 <td< td=""><td>1064</td><td>9/30/03</td><td>47</td><td>55</td><td>54.13</td><td>163</td><td>9.60</td><td></td></td<>	1064	9/30/03	47	55	54.13	163	9.60	
1067 9/30/03 47 55 53.75 163 10.37 1 1068 9/30/03 47 55 53.58 163 10.74 2 1069 9/30/03 47 55 53.46 163 11.15 2 1070 9/30/03 47 55 53.31 163 11.31 12 1071 9/30/03 47 55 53.20 163 11.49 9 1072 9/30/03 47 55 53.08 163 11.77 1 1073 9/30/03 47 55 52.96 163 12.02 3 1074 9/30/03 47 55 52.84 163 12.25 1 1075 9/30/03 47 55 52.64 163 12.76 1 1076 9/30/03 48 55 52.58 163 12.76 1 1077 9/30/03 48 55 52.34 163 13.24 0 1079 9/30/03 48 55 <td< td=""><td>1065</td><td>9/30/03</td><td>47</td><td>54</td><td>55.40</td><td>163</td><td>9.83</td><td>0</td></td<>	1065	9/30/03	47	54	55.40	163	9.83	0
1068 9/30/03 47 55 53.58 163 10.74 2 1069 9/30/03 47 55 53.46 163 11.15 2 1070 9/30/03 47 55 53.31 163 11.31 12 1071 9/30/03 47 55 53.20 163 11.49 9 1072 9/30/03 47 55 53.08 163 11.77 1 1073 9/30/03 47 55 52.96 163 12.02 3 1074 9/30/03 47 55 52.84 163 12.25 1 1075 9/30/03 47 55 52.64 163 12.25 1 1076 9/30/03 48 55 52.58 163 12.76 1 1077 9/30/03 48 55 52.34 163 13.24 0 1079 9/30/03 48 55 52.22	1066	9/30/03	47	55	53.88	163	10.11	0
1069 9/30/03 47 55 53.46 163 11.15 2 1070 9/30/03 47 55 53.31 163 11.31 12 1071 9/30/03 47 55 53.20 163 11.49 9 1072 9/30/03 47 55 53.08 163 11.77 1 1073 9/30/03 47 55 52.96 163 12.02 3 1074 9/30/03 47 55 52.84 163 12.25 1 1075 9/30/03 47 55 52.64 163 12.66 7 1076 9/30/03 48 55 52.58 163 12.76 1 1077 9/30/03 48 55 52.46 163 13.01 2 1078 9/30/03 48 55 52.22 163 13.56 0 1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 <td< td=""><td>1067</td><td>9/30/03</td><td>47</td><td>55</td><td>53.75</td><td>163</td><td>10.37</td><td>1</td></td<>	1067	9/30/03	47	55	53.75	163	10.37	1
1070 9/30/03 47 55 53.31 163 11.31 12 1071 9/30/03 47 55 53.20 163 11.49 9 1072 9/30/03 47 55 53.08 163 11.77 1 1073 9/30/03 47 55 52.96 163 12.02 3 1074 9/30/03 47 55 52.84 163 12.25 1 1075 9/30/03 47 55 52.64 163 12.66 7 1076 9/30/03 48 55 52.58 163 12.76 1 1077 9/30/03 48 55 52.46 163 13.01 2 1078 9/30/03 48 55 52.34 163 13.24 0 1079 9/30/03 48 55 52.22 163 13.56 0 1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 <td< td=""><td>1068</td><td>9/30/03</td><td>47</td><td>55</td><td>53.58</td><td>163</td><td>10.74</td><td>2</td></td<>	1068	9/30/03	47	55	53.58	163	10.74	2
1071 9/30/03 47 55 53.20 163 11.49 9 1072 9/30/03 47 55 53.08 163 11.77 1 1073 9/30/03 47 55 52.96 163 12.02 3 1074 9/30/03 47 55 52.84 163 12.25 1 1075 9/30/03 47 55 52.64 163 12.66 7 1076 9/30/03 48 55 52.58 163 12.76 1 1077 9/30/03 48 55 52.46 163 13.01 2 1078 9/30/03 48 55 52.24 163 13.24 0 1079 9/30/03 48 55 52.22 163 13.56 0 1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 51.96 163 14.01 3	1069	9/30/03	47	55	53.46	163	11.15	2
1072 9/30/03 47 55 53.08 163 11.77 1 1073 9/30/03 47 55 52.96 163 12.02 3 1074 9/30/03 47 55 52.84 163 12.25 1 1075 9/30/03 47 55 52.64 163 12.66 7 1076 9/30/03 48 55 52.58 163 12.76 1 1077 9/30/03 48 55 52.46 163 13.01 2 1078 9/30/03 48 55 52.34 163 13.24 0 1079 9/30/03 48 55 52.22 163 13.56 0 1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 51.96 163 14.01 3	1070	9/30/03	47	55	53.31	163	11.31	12
1073 9/30/03 47 55 52.96 163 12.02 3 1074 9/30/03 47 55 52.84 163 12.25 1 1075 9/30/03 47 55 52.64 163 12.66 7 1076 9/30/03 48 55 52.58 163 12.76 1 1077 9/30/03 48 55 52.46 163 13.01 2 1078 9/30/03 48 55 52.34 163 13.24 0 1079 9/30/03 48 55 52.22 163 13.56 0 1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 51.96 163 14.01 3	1071	9/30/03	47	55	53.20	163	11.49	9
1074 9/30/03 47 55 52.84 163 12.25 1 1075 9/30/03 47 55 52.64 163 12.66 7 1076 9/30/03 48 55 52.58 163 12.76 1 1077 9/30/03 48 55 52.46 163 13.01 2 1078 9/30/03 48 55 52.34 163 13.24 0 1079 9/30/03 48 55 52.22 163 13.56 0 1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 51.96 163 14.01 3	1072	9/30/03	47	55	53.08	163	11.77	1
1075 9/30/03 47 55 52.64 163 12.66 7 1076 9/30/03 48 55 52.58 163 12.76 1 1077 9/30/03 48 55 52.46 163 13.01 2 1078 9/30/03 48 55 52.34 163 13.24 0 1079 9/30/03 48 55 52.22 163 13.56 0 1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 51.96 163 14.01 3	1073	9/30/03	47	55	52.96	163	12.02	3
1076 9/30/03 48 55 52.58 163 12.76 1 1077 9/30/03 48 55 52.46 163 13.01 2 1078 9/30/03 48 55 52.34 163 13.24 0 1079 9/30/03 48 55 52.22 163 13.56 0 1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 51.96 163 14.01 3	1074	9/30/03	47	55	52.84	163	12.25	1
1077 9/30/03 48 55 52.46 163 13.01 2 1078 9/30/03 48 55 52.34 163 13.24 0 1079 9/30/03 48 55 52.22 163 13.56 0 1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 51.96 163 14.01 3	1075	9/30/03	47	55	52.64	163	12.66	7
1078 9/30/03 48 55 52.34 163 13.24 0 1079 9/30/03 48 55 52.22 163 13.56 0 1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 51.96 163 14.01 3	1076	9/30/03	48	55	52.58	163	12.76	
1079 9/30/03 48 55 52.22 163 13.56 0 1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 51.96 163 14.01 3	1077	9/30/03	48	55	52.46	163	13.01	
1080 9/30/03 48 55 52.06 163 13.80 3 1081 9/30/03 48 55 51.96 163 14.01 3	1078	9/30/03	48	55	52.34	163	13.24	0
1081 9/30/03 48 55 51.96 163 14.01 3	1079	9/30/03	48	55	52.22	163	13.56	
1081 9/30/03 48 55 51.96 163 14.01 3	1080	9/30/03	48	55	52.06	163	13.80	3
1082 9/30/03 48 55 51.85 163 14.22 2	1081	9/30/03	48	55	51.96	163	14.01	3
	1082	9/30/03	48	55	51.85	163	14.22	2

Appendix B. (page 6 of 10)

			No	w4la	\//0		Logol
Cognoptial	Sot	Donth	No Lotit		We		Legal
Sequential Pot No.	Set	Depth	Latit		Longi		(6.5")
Pot No.	Date	(fm)	Degrees	wiiiutes	Degrees	Minutes	Crabs
1083	9/30/03	48	55	51.74	163	14.45	4
1084	10/1/03	45	55	59.57	162	57.82	19
1085	10/1/03	45	55	59.44	162	57.92	28
1086	10/1/03	45	55	59.33	162	58.05	14
1087	10/1/03	46	55	59.20	162	58.22	5
1088	10/1/03	45	55	59.07	162	58.37	13
1089	10/1/03	45	55	58.98	162	58.46	11
1090	10/1/03	45	55	58.83	162	58.67	11
1091	10/1/03	45	55	58.73	162	58.76	9
1092	10/1/03	45	55	58.62	162	58.88	24
1093	10/1/03	46	55	58.49	162	59.02	9
1094	10/1/03	46	55	58.37	162	59.16	19
1095	10/1/03	46	55	58.24	162	59.31	25
1096	10/1/03	45	55	58.11	162	59.44	33
1097	10/1/03	46	55	57.99	162	59.59	26
1098	10/1/03	46	55	57.80	162	59.79	45
1099	10/1/03	46	55	57.68	162	59.91	35
1100	10/1/03	46	55	57.60	163	0.01	45
1101	10/1/03	46	55	57.47	163	0.15	17
1102	10/1/03	46	55	57.33	163	0.30	19
1103	10/1/03	46	55	57.21	163	0.45	15
1104	10/1/03	45	55	57.03	163	0.65	4
1105	10/1/03	45	55	55.44	162	59.02	14
1106	10/1/03	45	55	55.55	162	58.91	12
1107	10/1/03	45	55	55.70	162	58.75	15
1108	10/1/03	45	55	55.85	162	58.57	17
1109	10/1/03	45	55	56.01	162	58.37	3
1110	10/1/03	45	55	56.16	162	58.21	10
1111	10/1/03	45	55	56.31	162	58.05	18
1112	10/1/03	45	55	56.48	162	57.85	29
1113	10/1/03	45	55	56.63	162	57.69	27
1114	10/1/03	45	55	56.76	162	57.53	18
1115	10/1/03	45	55	56.97	162	57.31	18
1116	10/1/03	45	55	57.10	162	57.17	34
1117	10/1/03	45	55	57.25	162	57.01	37
1118	10/1/03	45	55	57.37	162	56.88	33
1119	10/1/03	45	55	57.51	162	56.72	17
1120	10/1/03	45	55	57.66	162	56.55	17
1121	10/1/03	45	55	57.8	162	56.39	20
1122	10/1/03	45	55	57.99	162	56.16	9
1123	10/1/03	45	55	58.14	162	56.00	6

Appendix B. (page 7 of 10)

			No	rth	We	oct .	Legal
Sequential	Set	Depth	Latit		Longi		(6.5")
Pot No.	Date	(fm)	Degrees		Degrees		Crabs
1 00 140.	Date	(1111)	Dogroos	Williates	Degrees	Williatos	Olabo
1124	10/1/03	45	55	58.28	162	55.84	12
1125	10/1/03	44	55	58.41	162	55.69	13
1126	10/1/03	46	56	4.91	163	7.76	17
1127	10/1/03	46	56	4.80	163	7.80	20
1128	10/1/03	46	56	4.65	163	7.88	24
1129	10/1/03	46	56	4.57	163	7.95	38
1130	10/1/03	46	56	4.44	163	8.03	28
1131	10/1/03	46	56	4.31	163	8.10	13
1132	10/1/03	46	56	4.14	163	8.21	16
1133	10/1/03	46	56	4.04	163	8.28	11
1134	10/1/03	46	56	3.90	163	8.37	24
1135	10/1/03	46	56	3.76	163	8.46	25
1136	10/1/03	46	56	3.57	163	8.57	21
1137	10/1/03	46	56	3.48	163	8.62	16
1138	10/1/03	46	56	3.33	163	8.72	33
1139	10/1/03	46	56	3.21	163	8.79	23
1140	10/1/03	46	56	3.08	163	8.89	23
1141	10/1/03	46	56	2.94	163	8.97	23
1142	10/1/03	46	56	2.79	163	9.07	31
1143	10/1/03	46	56	2.64	163	9.16	30
1144	10/1/03	46	56	2.52	163	9.24	10
1145	10/1/03	46	56	2.37	163	9.33	12
1146	10/1/03	46	56	2.21	163	9.44	6
1147	10/1/03	46	55	58.52	163	1.31	16
1148	10/1/03	45	55	58.62	163	1.48	19
1149	10/1/03	45	55	58.73	163	1.63	11
1150	10/1/03	45	55	58.90	163	1.85	12
1151	10/1/03	45	55	59.02	163	2.03	19
1152	10/1/03	45	55	59.12	163	2.18	13
1153	10/1/03	46	55	59.27	163	2.40	13
1154	10/1/03	45	55	59.38	163	2.56	20
1155	10/1/03	45	55	59.49	163	2.72	10
1156	10/1/03	45	55	59.61	163	2.90	13
1157	10/1/03	45	55	59.76	163	3.10	10
1158	10/1/03	46	55	59.85	163	3.27	1
1159	10/1/03	45	55	59.96	163	3.42	9
1160	10/1/03	45	56	0.09	163	3.61	7
1161	10/1/03	45	56	0.20	163	3.78	3
1162	10/1/03	45	56	0.34	163	3.97	0
1163	10/1/03	46	56	0.48	163	4.18	11
1164	10/1/03	45	56	0.63	163	4.40	15

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			NIa	-41-	١٨/-		
Cognoptial	Sot	Donth	No		We		Legal
Sequential Pot No.	Set Date	Depth (fm)	Latit Degrees		Longi		(6.5") Crabs
FULINO.	Date	(1111)	Degrees	Williates	Degrees	Milliutes	Clabs
1165	10/1/03	45	56	0.68	163	4.48	10
1166	10/1/03	45	56	0.82	163	4.68	3
1167	10/1/03	45	56	0.93	163	4.84	11
1168	10/1/03	45	56	1.06	163	5.04	12
1169	10/1/03	45	56	1.20	163	5.26	13
1170	10/1/03	45	56	1.36	163	5.60	17
1171	10/1/03	45	56	1.49	163	5.70	15
1172	10/1/03	45	56	1.60	163	5.87	24
1173	10/2/03	46	55	57.68	162	59.91	35
1174	10/2/03	46	55	57.80	162	59.79	43
1175	10/2/03	46	55	57.90	162	59.59	20
1176	10/2/03	45	55	58.11	162	59.44	16
1177	10/2/03	46	55	58.24	162	59.31	14
1178	10/2/03	46	55	58.37	162	59.16	16
1179	10/2/03	46	55	58.49	162	59.02	4
1180	10/2/03	45	55	58.62	162	58.88	6
1181	10/2/03	45	55	58.73	162	58.76	8
1182	10/2/03	45	55	58.83	162	58.67	9
1183	10/2/03	45	55	58.98	162	58.46	9
1184	10/2/03	45	55	58.93	162	59.65	15
1185	10/2/03	46	55	58.82	162	59.79	29
1186	10/2/03	45	55	58.71	162	59.92	15
1187	10/2/03	46	55	58.58	163	0.07	15
1188	10/2/03	46	55	58.48	163	0.21	10
1189	10/2/03	45	55	58.36	163	0.36	16
1190	10/2/03	45	55	58.23	163	0.53	17
1191	10/2/03	45	55	57.98	163	0.85	41
1192	10/2/03	45	55	57.83	163	1.03	33
1193	10/2/03	45	55	56.16	162	58.21	16
1194	10/2/03	45	55	56.31	162	58.05	8
1195	10/2/03	45	55	56.48	162	57.85	11
1196	10/2/03	45	55	56.63	162	57.69	13
1197	10/2/03	45	55	56.76	162	57.53	5
1198	10/2/03	45	55	56.97	162	57.31	12
1199	10/2/03	45	55	57.10	162	57.17	6
1200	10/2/03	45	55	57.25	162	57.01	8
1201	10/2/03	46	55	58.93	163	0.70	21
1202	10/2/03	46	55	59.05	163	0.84	23
1203	10/2/03	46	55	59.15	163	0.97	21
1204	10/2/03	46	55	59.28	163	1.15	16
1205	10/2/03	46	55	59.40	163	1.30	8

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Sequential Pot No. Set Date North (fm) North Latitude Weat Longitude Logitude (6.5") Legal (6.5") 1206 10/2/03 46 55 59.52 163 1.46 14 1207 10/2/03 46 55 59.57 163 1.64 13 1208 10/2/03 46 55 59.75 163 1.78 22 1209 10/2/03 46 55 59.99 163 2.11 19 1211 10/2/03 46 55 59.99 163 2.11 19 1211 10/2/03 46 56 0.10 163 2.28 18 1212 10/2/03 46 56 0.25 163 2.48 14 1213 10/2/03 46 56 0.25 163 2.48 14 1213 10/2/03 46 56 0.25 163 2.48 14 1213 10/2/03 46 56				No	rth	\\/o	not.	Logal
Pot No. Date (fm) Degrees Minutes Degrees Minutes Crabs	Sequential	Set	Denth					
1206 10/2/03 46 55 59.52 163 1.46 14 1207 10/2/03 46 55 59.64 163 1.64 13 1208 10/2/03 46 55 59.75 163 1.78 22 1209 10/2/03 46 55 59.86 163 1.93 27 1210 10/2/03 46 55 59.99 163 2.11 19 1211 10/2/03 46 56 0.25 163 2.28 18 1212 10/2/03 46 56 0.25 163 2.48 14 1213 10/2/03 46 56 0.25 163 2.48 14 1213 10/2/03 46 56 0.25 163 2.63 15 1214 10/2/03 46 56 4.80 163 7.80 2 1215 10/2/03 46 56 4.85 163 7.88 15 1216 10/2/03 46 56 4.65 163 7.88 15 1216 10/2/03 46 56 4.65 163 7.88 15 1216 10/2/03 46 56 4.65 163 7.88 15 1216 10/2/03 46 56 4.65 163 7.85 10 1217 10/2/03 46 56 4.65 163 7.85 10 1217 10/2/03 46 56 4.65 163 7.95 10 1217 10/2/03 46 56 4.65 163 7.95 10 1217 10/2/03 46 56 4.64 163 8.03 7 1218 10/2/03 46 56 4.31 163 8.10 5 1219 10/2/03 46 56 4.04 163 8.21 22 1220 10/2/03 46 56 4.04 163 8.22 27 1221 10/2/03 46 56 3.90 163 8.37 25 1222 10/2/03 46 56 3.76 163 8.46 19 1223 10/2/03 46 56 3.76 163 8.46 19 1223 10/2/03 46 56 3.76 163 8.62 18 1225 10/2/03 46 56 3.76 163 8.79 11 1227 10/2/03 46 56 3.76 163 8.79 11 1227 10/2/03 46 56 3.81 163 8.72 22 1224 10/2/03 46 56 3.91 163 8.79 11 1225 10/2/03 46 56 3.91 163 8.79 11 1227 10/2/03 46 56 3.21 163 8.79 11 1228 10/2/03 46 56 2.94 163 8.97 12 1229 10/2/03 46 56 3.21 163 8.79 11 1227 10/2/03 46 56 3.21 163 8.79 11 1228 10/2/03 46 56 2.94 163 8.97 12 1229 10/2/03 46 56 2.94 163 8.97 12 1229 10/2/03 46 56 2.94 163 8.97 12 1229 10/2/03 46 56 2.94 163 8.97 12 1229 10/2/03 46 56 2.94 163 8.97 12 1229 10/2/03 46 56 2.94 163 9.07 6 1230 10/2/03 46 56 2.94 163 9.97 6 1230 10/2/03 46 56 5.55 58.90 163 1.63 21 1231 10/2/03 46 56 5.55 58.90 163 1.63 21 1233 10/2/03 46 56 5.55 58.90 163 1.63 21 1234 10/2/03 45 55 58.90 163 1.63 2.90 6 1234 10/2/03 45 55 59.91 163 2.90 6 1244 10/2/03 45 55 59.91 163 2.90 6 1244 10/2/03 45 55 59.91 163 2.90 6 1244 10/2/03 45 55 58.81 162 58.64 21	•		-					
1207 10/2/03 46 55 59.64 163 1.64 13 1208 10/2/03 46 55 59.75 163 1.78 22 1209 10/2/03 46 55 59.99 163 2.11 19 1211 10/2/03 46 56 0.10 163 2.28 18 1212 10/2/03 46 56 0.25 163 2.48 14 1213 10/2/03 46 56 0.25 163 2.48 14 1213 10/2/03 46 56 0.35 163 2.63 15 1214 10/2/03 46 56 4.80 163 7.88 15 1216 10/2/03 46 56 4.65 163 7.88 15 1216 10/2/03 46 56 4.57 163 7.95 10 1217 10/2/03 46 56 4.31 1	1 01 110.	Date	(1111)	Dogroos	Williates	Degrees	Williatos	Olabo
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1241 10/2/03 45 55 59.38 163 2.40 13 1242 10/2/03 45 55 59.49 163 2.56 7 1243 10/2/03 45 55 59.61 163 2.90 6 1244 10/2/03 45 55 58.28 162 58.64 21	1239	10/2/03	45	55	59.12	163	2.03	24
1242 10/2/03 45 55 59.49 163 2.56 7 1243 10/2/03 45 55 59.61 163 2.90 6 1244 10/2/03 45 55 58.28 162 58.64 21	1240	10/2/03	45	55	59.27	163	2.18	20
1243 10/2/03 45 55 59.61 163 2.90 6 1244 10/2/03 45 55 58.28 162 58.64 21	1241	10/2/03	45	55	59.38	163	2.40	13
1244 10/2/03 45 55 58.28 162 58.64 21	1242	10/2/03	45	55		163		7
	1243	10/2/03	45	55	59.61	163	2.90	6
1245 10/2/03 45 55 58.18 162 58.69 17	1244	10/2/03	45	55	58.28	162	58.64	21
	1245	10/2/03	45	55	58.18	162	58.69	17
1246 10/2/03 45 55 58.02 162 58.80 23	1246	10/2/03	45	<u>5</u> 5	<u>5</u> 8.02	162	58.80	23

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			North		West		Legal
Sequential	Set	Depth	Latit	tude	Longi	tude	(6.5")
Pot No.	Date	(fm)	Degrees	Minutes	Degrees	Minutes	Crabs
1247	10/2/03	46	55	57.89	162	58.90	18
1248	10/2/03	46	55	57.75	162	58.99	25
1249	10/2/03	46	55	57.63	162	59.06	42
1250	10/2/03	45	55	57.47	162	59.17	43
1251	10/2/03	45	55	57.29	162	59.29	37
1252	10/2/03	45	55	57.16	162	59.39	39
1253	10/2/03	45	55	57.00	162	59.50	21
1254	10/2/03	45	55	56.84	162	59.60	26
1255	10/2/03	46	55	56.67	162	59.71	19
1256	10/2/03	46	55	56.51	162	59.81	20
1257	10/2/03	46	55	56.35	162	59.92	15
1258	10/2/03	45	55	56.20	163	0.02	15
1259	10/2/03	46	55	56.00	163	0.17	19
1260	10/2/03	46	55	55.90	163	0.22	19
Total							5158

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